the seeds to have been very badly infested. This is the first record of this insect in seeds of this native tree, altho Mr. Rock had previously reported its seeds badly eaten by some Lepidopterous larvae.

Colobicus parilis.—Mr. Fullaway reported the collecting of two specimens of this beetle.

Passer domesticus.—Mr. Fullaway reported having observed the English sparrow picking mealybugs from the leaves of poinsettia.

PAPERS.

A Note on Euxestus minor.

BY F. MUIR.

The insect described by Dr. Sharp as *Euxestus minor* (Fauna Hawaiiensis, III, p. 415) is stated by Arrow to be the same as *E. parki* Woll., which was first described from Madeira and now recognized by Arrow from China, Burma, Malay Peninsula, Philippine Islands, Java, Hawaii, Haiti and Central America (vide Ann. Mag. Nat. Hist., (8) 20, p. 138, 1917).

Homopterous Notes II.*

BY F. MUIR.

[Presented by O. H. Swezey.]

The material dealt with in these notes are two small collections, one kindly loaned to me by the American Museum of Natural History, New York, and the other by Prof. H. Osborn, and a few specimens belonging to the collection of the Hawaiian Sugar Planters' Association, Honolulu.

Measurements are from apex of head to anus and from

* Homopterous Notes I was published in Proc. Haw. Ent. Soc., III, 4, p. 311, 1917.

apex to base of one tegmen; colors are according to the Ridgeway standard.

The more one works upon the Fulgorids the more one is convinced of the necessity of using the genitalia for specific distinction. Unfortunately these characters are seldom mentioned by describers, except in one group of the Delphacidae, and in a great many instances the sex of the insect being described is not mentioned, or it is wrongly mentioned. There are good characters in both sexes for dividing the Homoptera into groups, and even among the Fulgorids there are good group distinctions which have not yet been fully worked out.

DERBIDAE.

Genus Herpis Stål.

Herpis obscura? (Ball).

Lamenia obscura Ball, 1902, Can. Entom. XXXIV., p. 262.

The specimens I have agree with the descriptions of this species as far as the descriptions go, but they are incomplete.

Anal segment much longer than broad, gradually constricted to the middle, apex truncate, anus near apex; length of genital styles twice the width, ventral or inner margin entire, slightly convexly curved, apex produced into a broad, sharp point turned inward, dorsal or outer margin turned at right angle to disk leaving an entire, nearly straight false margin when viewed from outside, the true margin strongly convexly curved on apical two-thirds with a slender projection near the base with its pointed apex at right angles to the stem.

One pair from Cabanas, P. de R., Cuba, one female from Pinar d. Rio, P. de R., Cuba, September, 1913; also one pair from Rockstone, British Guiana, July, 1911.

My specimens of *H. vulgaris* (Fitch) is a larger insect, the genital styles are longer in proportion to the width, the apical spine more slender, the dorsal margin more angularly produced and its basal process with two apical spines.

Genus Cyclokara Muir.

In my table of genera of Derbidae* I placed *Patara* West. in Group II. Westwood's figure was not clear to me at that time, but since then I have examined allied forms from the West Indies and now see that *Patara* should have been placed in Group I, as it comes near to *Cyclokara* Muir. *Dawnaria* Distant is close to *Cyclokara*. *Patara* West. differs from both of these in having a large, flattened antenna. I place *Patara vanduzei* Ball in *Cyclokara* but the neuration is not quite typical.

C. sordidulum sp. nov.

♂ In neuration, shape of head and antennae this species is typical of the genus. Head, thorax and abdominal sternites sordid pale orange yellow, carinae of face between eyes slightly infuscate, abdominal tergites cadmium orange. Tegmina sordid yellow, opaque with waxy secretion, slightly fuscous over apical cells, veins brownish in places; wings white opaque with waxy secretion, veins brown.

Edges of pygophor straight, entire, with a small, sharp point projecting on each side of the anal segment; anal segment small, about as long as wide; styles large, broad, apex roundly truncate, ventral edge slightly convexly curved, roundly produced in middle, dorsal edge very slightly and concavely curved, with a quadrate projection on basal half.

Length 2.1 mm.; tegmen 4.5 mm.

♀ Similar to male. Anal segment very small, as long as broad; pregenital ventral plate short, posterior edge widely angularly produced, the apex of the projection turned slightly dorsad.

Length 2.2 mm.; tegmen 5.5 mm.

Hab. Porto Rico, Aibonito, Mayaguez, July, 1914. Described from five males and five females. Type in the American Mus. of Nat. Hist., New York.

Genus Persis Stål.

The following species agrees with Stål's description of the genus. It has a similar neuration but the head is much more acutely angular in profile and the shoulder keels are only represented by a ridge. It differs from *Goncokara* Muir in having the head more produced, in profile the vertex and face form an acute angle, and the tegmen is longer and narrower.

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*Haw. Sugar Planters' Assn. Exp. Sta. Ent. Bull. 12, p. 43, 1913.

P. stali sp. nov.

♂ Mikado orange, fuscous along carinae of face and a little spot over the eyes, antennae lighter, genital styles much paler, nearly white. Tegmina with the veins and an adjoining portion of membrane white or creamy white with the median portion of the cells orange-buff.

Medio-ventral edge of pygophor subangularly produced, lateral edges broadly convex; anal segment very long and narrow, suddenly constricted slightly above base then gradually widened to the truncate apex, with each apical corner produced into a point and turned ventrad, anus near apex; genital styles long, the dorsal edge near base produced into a subquadrate, flat process with a rounded process in the middle of the apical margin, beyond this the dorsal margin is entire and slightly curved dorsad, ventral edge produced into a broad, blunt spine near base, beyond which it is sinuous, widest beyond middle, the apex forming a slender point.

Length 4 mm.; tegmen 6 mm.

♀ Similar to male. Preanal segment deeply emarginate to receive anal segment; anal segment much longer than broad, anus before middle where the segment is broadest, beyond anus it narrows to apex which is deeply emarginate leaving the corners projecting as spines; pregenital plate large, longer than wide, hind margin at first gradually and then steeply produced, the middle portion forming a subconical plate.

Length 4.2 mm.; tegmen 7 mm.

Hab. Paramaribo, Dutch Guiana, August, 1911. Described from four males and five females, also one damaged female from Bartica, British Guiana, March, 1901. Type in the American Mus. of Nat. Hist., New York.

P. fuscinervis sp. nov.

♀ Head not produced so greatly as in *P. stali*. Ochraceous-orange, slightly fuscous over abdominal tergites; tegmina hyaline, opaquely white with waxy secretion, veins yellowish with fuscous patches; wings hyaline, opaquely white with waxy secretion, veins concolorous with membrane.

Pregenital plate large, posterior edge produced from sides to middle into a large plate subconicle in outline, the produced portion as long as the rest of the segment; anal segment longer than broad, anus before middle, apex produced into two fine spines with a rounded emargination between; style well developed, projecting silghtly beyond pregenital plate.

Length 2.7 mm.; tegmen 5 mm.

Hab. Bartica, British Guiana, May, 1901 (*Coll. H. S. Parish*). Described from one female. Type in coll. Prof. H. Osborn.

Genus Phaciocephalus Kirk.

Until the types of *Phaciocephalus* Kirk. and *Cenchrea* Westw. are compared there must be some doubt as to the distinction of these two genera. *C. dorsalis* Westw. is described and figured as having the subcostal cell short whereas in *Phaciocephalus* it is long. I shall retain for the present the name *Phaciocephalus* Kirk. for those forms having the subcostal cell long.

P. uhleri (Ball).

Cenchrea uhleri Ball, 1902, Can. Entom., XXXIV, p. 261.

P. sp.?

Two female specimens from Cuba which do not agree with any description, but I refrain from naming them without having males.

P. parishi sp. nov.

♂ First claval vein joining suture before it joins second claval, clavus closed.

Mikado-orange; tegmina hyaline, opaque with waxy secretion, light fuscous yellow over costal and apical portion of subcostal cells, veins yellowish; wings hyaline, opaquely white with waxy secretion, veins concolorous with membrane.

Medio-ventral edge of pygophor produced into a quadrate plate, slightly longer than wide, apex slightly narrower than base, turned slightly dorsad; anal segment very long and narrow, anus at apex, apex turned slightly ventrad and produced into two angular points; genital styles large, gradually widening to truncate apex, ventro apical corner produced into a long, thin spine turned inward, ventral edge slightly convex with a small quadrate process near base, dorsal edge concave with a small rounded process about middle.

Hab. Bartica, British Guiana, March, 1901 (*Coll. H. S. Parish*). Described from one male. Type in coll. of Prof. H. Osborn.

P. ? *bipunctata* sp. nov. (fig. 1).

This differs from the generic type in having a shorter subcostal cell, but not very short, the media has three sectors, the first two arising very near together, the media being bent at

that spot. Pronotum with two distinct and one indistinct carinae; shoulder keels large.

♂ Light orange yellow. Tegmina hyaline, very light yellow over costal and apical cells, opaquely white with waxy secretion, a small brown spot at fork of cubitus and another near cross vein of first median sector; wings hyaline, veins concolorous, opaquely white with waxy secretion.

Ventral edge of pygophor straight, ventral surface tumid in middle, lateral edges slightly convex; anal segment long, narrow, slightly widened at apex which is bilobed, anus near apex; genital styles long, ventral edge with an angular projection near base, beyond which edge is slightly sinuous, apex rounded with a subangular projection on the dorso-apical margin, dorsal margin entire, a carina runs down the outer surface near dorsal margin, on the inner surface in middle there is a spine with a curve and somewhat flattened crook at the apex.

Length 2.6 mm.; tegmen 3.7 mm.

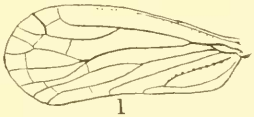

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Figure 1. *Phaciocephalus bipunctata*, tegmen.

Hab. Bartica, British Guiana, August, 1901 (*Coll. H. S. Parish*). Described from one male specimen. Type in coll. Prof. H. Osborn.

Genus Syntames Fowler.

Fowler describes *S. delicatus* from what he states to be males but they are females. The variety *chiriquensis* appears to me to be specifically distinct from *S. delicatus*.

When tabulating the genera of Derbidae* I had only a damaged specimen to examine and I placed the genus in Group I. In the two following species one has the clavus narrowly open and the other has it closed, otherwise they are congeneric with *S. delicatus*.

S. nigrolineatus sp. nov.

♀ Clavus closed, claval veins joining the suture a little before the apex. Shoulder keels large; no subantennal process; medio-frontal carina somewhat obscured towards the apex.

*H. S. P. A. Ent. Bull., XII, 1913.

Ochraceous-orange, fuscous over middle of base of face, fuscous over the lateral portions of mesothorax and continued as a broad, fuscous line down the inner half of tegmen; tegmina hyaline, light yellow, opaque with waxy secretion, veins concolorous; wings white with yellowish veins.

Pregenital sternite large, middle area tumid, medio-posterior edge produced into a semi-circular plate, the latero-posterior edge being slightly concave; styles and ovipositor well developed, reaching well beyond pregenital sternites.

Length 4.7 mm.; tegmen 6 mm.

Hab. Bartica, British Guiana, May, 1901 (*Coll. H. S. Parish*). Described from one female. Type in coll. Prof. H. Osborn.

S. sufflarus sp. nov.

♀ Clavus narrowly open, cubital veins not reaching hind margin.

Ochraceous-buff; tegmina lighter with darker veins, opaque with waxy secretion; a light fuscous mark in middle of clavus, in middle of cubital fork, near base of first median sector across to apex of subcostal cell.

Pregenital sternite large, base slightly tumid, posterior margin straight with a median portion produced into nearly a circular plate; styles and ovipositor well developed.

Length 4 mm.; tegmen 6 mm.

Hab. Bartica, British Guiana, June, 1901 (*Coll. H. S. Parish*). Described from one female. Type in coll. Prof. H. Osborn.

Genus Otiocerus Kirby.

O. schouherri ? Stål.

♂ I have not seen the original description of this species. The specimen before me is a little smaller but somewhat similar in color to *O. degeerii* Kirby. The head in profile is more slender and the apex turned slightly dorsad, the antenna has two long processes, one reaching to apex of head and the other a little shorter. Medio-ventral edge of pygophor roundly produced into a small plate, a depression runs across the base of this plate which gives the margin the impression of being entire, lateral edges roundly produced; anal segment long, narrow, apex curved slightly ventrad and rounded, anus near apex, lateral edges turned ventrad, the basal half subangularly produced; genital styles widely apart at bases, ventral edge sinuous, apex produced into a point and turned dorsad, dorsal edge entire, straight.

Hab. One male specimen from Aibonito, Porto Rico, July, 1914.

Genus Dendrokara Melichar.

D. monstrosa Mel.

I have examined twenty males and eighteen females; in all the former the antennae are typical of *D. monstrosa* while in the latter they are typical of *D. torra*. It is possible that Melichar described *torra* from a female and not a male, and that they are the sexual forms of the same species.

Genus Platocera Muir.

The distinction between *Platocera* and *Heronax* is likely to break down with the increase of specific forms, the antennae are not good generic characters.

P. rubicundum sp. nov.

♀ Face in profile not ascendingly produced as in the type of the genus; antennae as long as the face, second joint flattened, attached to first joint by the basal corner, arista at apex.

Brown tinged with red, or claret brown; rostrum, vertex and base of face and legs yellowish, abdominal sternites deeper red. Tegmina fuscous, a clear hyaline half circle on hind margin beyond clavus, another clear space on margin over median area, over costal cell and apical subcostal and radial cells, veins tinged with red.

Pregenital plate large, flattened, shield-shape, posterior margin angularly produced from sides to middle, the produced portion turned ventrad, apex with small angular emargination; anal segment fairly large, apex with rounded emargination in middle half; styles fairly well developed.

Length 4.33 mm.; tegmen 10 mm.

Hab. Bartica, British Guiana, July, 1901 (*Coll. H. S. Parish*). Type in coll. Prof. H. Osborn.

Genus Nicerta Walker.

N. cruenta Muir.

Philippine Islands; Luzon, Mt. Maquiling, Baguio; Mindanao, Davao.

This species was described from one female specimen from Amboina. I have five females and two male specimens from the Philippine Islands which I cannot separate from the

Amboina females. There is a large amount of variation in the size and intensity of the red splashes.

Genus Paraproutista Muir.

P. matsumurae sp. nov.

Pamendanga rubilinea Matsumura (not Distant), 1914, Ann. Mus. Nat. Hungary, XII, p. 297.

♂ Typical of the genus. The face is very narrow, formed of two contiguous carinae; antennae about as long as face.

Warm buff, slightly fuscous on apex of clypeus and over abdominal segments. Tegmina hyaline, opaquely white with waxy secretion, fuscous over basal third, along cubitus to hind margin and along media to third sector, from near the apex of radial cell to hind margin and along the fourth sector to its base, all the quadrate cross veins and some irregular marks at the end of veins; veins concolorous with adjoining membrane, or slightly yellowish, apical portion of sub-costal and radial veins reddish; wings hyaline, opaque with waxy secretion, veins fuscous spreading out into the membrane.

Ventral edge of pygophor very slightly convexly curved, lateral edges straight; anal segment longer than broad, slightly constricted near base, apex rounded, anus near apex, a small, transverse ridge just basad of anus; styles large, subquadrate, ventral edge strongly convexly curved near base, with a tooth about the middle, apex slightly convex, dorsal edge with a pointed process near base.

Length 3.3 mm.; tegmen 7.4 mm.

♀ In color similar to male. Pregenital plate large, longer than broad, posterior edge produced in middle into a small truncate process, with two sinuous emarginations reaching to the lateral angles.

Length 3.6 mm.; tegmen 8.6 mm.

Hab. Hokkaido, Japan, and Formosa. I have one specimen from Sapparo (det. Matsumura) and three from Horisha, Formosa (*coll. Muir*). These cannot be placed under *Pamendanga* as the face does not conform to that genus. Type in coll. H. S. P. A. Experiment Station, Honolulu.

Genus Mysidia Westw.

The facies of some of the species of this genus are very much alike and the best specific characters lie in the genitalia; unfortunately these characters have hardly been mentioned in descriptions of these insects.

M. nebulosa (Germ.).

I have specimens from Bartica, British Guiana, which agree with the descriptions of this species. The male pygophor short, mostly hidden within preceding segment, ventral edge straight, a thin projection from each lateral edge beside the anal segment; anal segment short, base hidden within pygophor, portion beyond anus roundly bilobed, a ridge running from each side of anus along each lobe to medio-apical edge; genital styles large, ventral edge curved, more strongly so on apical half, dorsal edge straight, a little beyond the middle there is a process pointing inward, flat, sub-quadrate, longer than broad with its truncate apex oblique, its plane at right angles to the plane of style.

♀ The female I associate with the above has a very short anal segment sunk within the preceding segment, the styles are flat, subconical, somewhat longer than width of base, broadest at base and rounded on basal inner margin; ovipositor very small.

M. costata ? (Fabr.).

This agrees with the descriptions and figure of *costata*. There is a brown spot on each lateral portion of the pronotum, tegulae dark.

♂ Pygophor very short, ventral edge entire, lateral edges roundly produced in middle and turned inward, the produced portion can only be seen when the genital styles are widely parted; anal segment about as long as broad, subovate, the lateral edges slanting downward, apex with a small emargination, anus at base, a keel runs from each side of anus to near apical margin; genital styles large, narrow at base, widest in middle, apex rounded, ventral edge slightly convex and the rim slightly thickened, dorsal edge subangularly produced in middle, the margins being slightly concave, near base there arises a curved spine, rounded and slightly flattened at apex, a keel runs from base to near apex down the outer surface.

♀ Pregenital plate much wider than long, posterior edge medially produced into a subtriangular lip; styles and ovipositor abortive, the latter appearing as two small curved spines, genital area arcuate along the dorsal margin, the ventral margin formed by the pregenital plate; anal segment about middle, very short.

Hab. Three specimens from Bartica, British Guiana, April and July, 1901.

M. pseudonebulosa sp. nov.

♂ This differs from *M. nebulosa* as recognized above by the genitalia. Pygophor very short, ventral edge entire, lateral edges produced into a large, curved, flattened spine beside the anal segment; anal segment longer than wide, subconical in outline, apex with angular emargination, anus near base, a keel runs from each side of anus to apex at each side of emargination; genital styles large, ventral edge slightly con-

vex, apex rounded, dorsal edge subangularly produced on apical half, from near base a curved, flattened spine arises.

Length 3.7 mm.; tegmen 8.5 mm.

Hab. Bartica, British Guiana, May, 1901. Described from one male specimen. Type in coll. Prof. H. Osborn.

M. neonebulosa sp. nov.

♂ Similar to *M. nebulosa* as recognized above but the bands on tegmina fainter and narrower. Pygophor very short, edges entire; anal segment subquadrate, about as long as wide, sides very slightly convex, apex truncate or slightly concave, anus near middle, a carina runs from each side of anus to apical edge; genital styles broadest at apex, ventral edge slightly curved, apex slightly convex, dorso-apical corner angular, ventro-apical corner round, dorsal edge concave, from the middle arises a curved spine with a rounded apex.

Length 3 mm.; tegmen damaged.

Hab. Bartica, British Guiana, July, 1901. Described from one male with damaged tegmina. Type in coll. Prof. H. Osborn.

M. ? sp. nov.

♀ I have one female specimen with immaculate tegmina with the antennae longer than the face and the arista arising one-third from apex; the genital styles (ovipositor sheath) are abortive but the ovipositor is well developed and exposed. I refrain from naming from only a female.

Hab. Bartica, British Guiana, April, 1901.

M. sp. nov.

♀ Orange-buff, veins of tegmina and wings slightly darker than membrane, posterior margins of tegmina and wings bordered with fuscous. Posterior edge of pregenital plate produced in middle into a quadrate plate slightly longer than wide; styles small, covering ovipositor.

Length 3.4 mm.; tegmen 7.8 mm.

Hab. Bartica, British Guiana, May, 1901 (*Coll. H. S. Parish*). I refrain from naming only a female.

DELPHACIDAE.

Genus Ugyops Guerin.

U. occidentalis sp. nov.

This species is congeneric with *U. liturifrons* (Walk.), the tegmina are broadly tectiform, the median frontal carina double to near apex and the first joint of antennae slightly shorter than the second.

Ochraceous-buff with brown markings as follows: carinae of head and thorax, small spots alongside of median carinae of face, spreading across to sides at apex, two rings on apical antennal joint, bands on front and middle femora and tibiae, a longitudinal mark on hind femora, lateral areas of pro- and mesonotum, on the apical abdominal segment, base of pygophor and the anal segment. Tegmina hyaline, veins dark, broken with light patches, granules minute, bearing small hairs concolorous with vein.

Genitalia of the *Ugyops* type; anal segment dome-shape with anus at top, apical edge slightly emarginate, ventral edge of pygophor quadrately emarginate, a small angular emargination in the medio-ventral line; styles sub-cylindrical, the curve of apical two-thirds slight.

Length 4.5 mm.; tegmen 5.5 mm.

♀ Similar to male. Anal segment small, about as long as broad; ovipositor with more than one-third extending beyond pygophor; lateral plates reaching beyond middle of pygophor.

Length 5 mm.; tegmen 5.7 mm.

Hab. Aibonito, Porto Rico, July, 1914. Described from one pair in the American Mus. of Nat. Hist., New York.

Genus Punana Muir.

P. puertoricensis sp. nov.

♂ Width of vertex more than double the length along the middle line, projecting very slightly beyond eyes, base concave, apex convex, the Y-shape carina obscure, the fork forming a small areola at apex; face slightly broader than long, subcircular except at apex, face and clypeus medially and laterally carinate, carinae obscure; antennae not reaching to middle of clypeus, second joint 2.5 times the length of first, first subsagittate, second subovate, considerably flattened, with large sense organs on dorso-apical portion, both joints with stout hairs, arista apical. Pronotum slightly longer than vertex, hind margin shallowly and roundly emarginate, tricarinate, the lateral carinae curving parallel with hind margin of eyes and do not reach the hind margin. Tegmina broad, slightly decumbent beyond apex of abdomen, radius not touching media, cubitus and media touching at base of first median sector. Hind tibiae with one basal, one median, one subapical and five apical spines, hind tarsus two-thirds the length of tibia, first joint slightly longer than the other two

together, spur subulate with circular cross section, about half the length of first tarsal joint.

I have described the generic characters of this species as it differs in some points from the type of the genus and approaches *Onkelos* Distant in others; unfortunately the shape of the antennae and of the spur of the latter genus are not stated.

Ochraceous-buff, face between eyes and the clypeus slightly darker, antennae brown, carinae of pronotum, median portion of mesonotum and carinae lighter; a slight brown band on front coxae, and fainter ones on first and second tibiae. Tegmina pale, veins concolorous or lighter, thickly studded with brown granules bearing dark brown hairs.

Genitalia of the same type as *Asiraca*. Anal segment large, lateral edges turned ventrad so as to form a convexity on ventral surface, the apical edge not turned ventrad and, together with the square emargination of the ventral edge of the pygophor, forming a five-sided ventral opening; styles subulate, widest and slightly flattened at base, curved, bases and apices approximate.

Length 3.3 mm.; tegmen 3.9 mm.

♀ Similar to the male. Lateral plates small, reaching less than one-third from base, styles (ovipositor sheath) narrow, projecting well beyond pygophor, and slightly beyond anal segment, anal segment as long as wide in ventral view, styles dark brown.

Length 4.3 mm.; tegmen 4.4 mm.

Hab. Aibonito, Coamo Springs and Mayaguez, Porto Rico, July, 1914. Described from five males and five females in good condition, and one broken female in the American Museum of Nat. Hist., New York.

Genus Neomalaxa nov.

Head considerably narrower than thorax; vertex prolonged well beyond eyes, broadest at base, apical two-thirds with sides parallel, length 1.6 times the width in middle; base of Y-shape carina obsolete leaving a semiobsolete, quadrate areola near apex, basal half excavate, base straight with carina; length of face four times the width, sides parallel, a simple median carina, sides carinate, an oblique carina from beneath antennae to apical corner of face; clypeus slightly wider than face, with three subobsolete carinae, antennae long, slender, both joints terete, reaching to beyond middle of clypeus, joints subequal in length, arista apical, long. Pronotum shorter than vertex, hind margin slightly concave, tricarinate, lateral carinae straight, diverging posteroirly, reaching hind margin; mesonotum normal, tricarinate. Hind tibiae with one basal, one median and seven or eight minute apical spines, hind tarsi subequal in length to tibia, first joint longer than other two together, spur two-thirds the length of the first tarsal joint, laminate, teciform, 14-16 small teeth on hind margin. Tegmina large, radius not touching media, first median sector joined to cubitus for a short distance near its base.

This genus comes near *Zulcika* Distant if that genus possesses the spur of the Delphacini; apart from the spur it approaches *Malaxa* Melichar.

N. flava sp. nov.

♀ Pale yellow-orange, eyes light brown, ocelli black, a longitudinal brown mark down antennae not quite reaching the base of each joint. Tegmina hyaline, milky white with waxy secretion, veins basad of cross-veins concolorous, cross-veins and veins apical of cross-veins brown.

Styles broad at base, gradually narrowing to apex, reaching to apex of pygophor and covering the greater portion thereof.

Length 2.4 mm.; tegmen 3.6 mm.

Hab. Mayaguez, Porto Rico, July, 1914. Described from two females, one in bad condition, in the American Mus. Nat. Hist., New York.

Genus Delphacodes Fieb.

D. erectus nigripennis (Crawford)*.

Megamelus erectus nigripennis Crawford, 1914. Proc. U. S. Nat. Mus., Vol. 46, p. 625.

One male specimen from Point a Pitre, Guadalupe, W. I. This insect is very close to the brachypterous form of *D. matanitu* (Kirk.) from Fiji and Papua. They are hard to distinguish except for the aedeagi, which are quite distinct (figs. 2, 3). *D. erectus* is most likely the macropterous form of *nigripennis* and is paralleled by the light, macropterous form of *D. matanitu*.

D. mardininae sp. nov.

♂ Macropterous. Lateral pronotal carinae divergingly curved, not reaching hind margin; vertex square, carinae distinct; face slightly narrowed between eyes, sides subparallel, median carina simple; antennae reaching slightly beyond base of clypeus, second joint 1.5 times the length of first; hind tarsi shorter than hind tibiae, first joint longer than other two together, spur slightly shorter than first joint, laminate, subtectiform, with minute teeth on hind margin.

Head and thorax ochraceous-buff, abdomen ochraceous orange, carinae of head and thorax lighter, face and clypeus between carinae slightly fuscous, apical portion of each antennal segment, apex of rostrum and apices of tarsi brown. Tegmina and wings hyaline, veins fine, yellowish, fuscous at apices, granules very small.

Pygophor figured (figs. 4, 4a).

Length 2 mm.; tegmen 3 mm.

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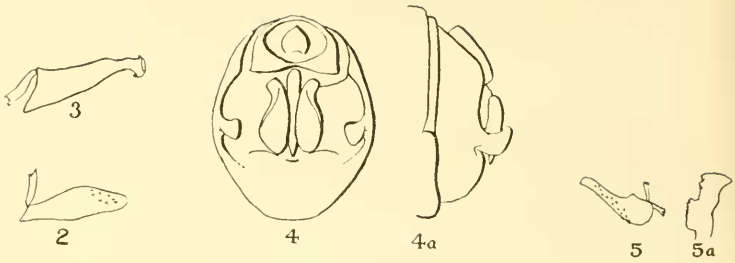
* I propose the new name *pseudonigripennis* for *D. nigripennis* Muir. 1917 Proc. Haw. Ent. Soc., III, No. 4, p. 338.



Explanation of Figures.

2. *D. matanitu,* aedeagus.
3. *D. matanitu,* aedeagus.
4. *D. mardininae,* full view of pygophor.
4a. *D. mardininae,* lateral view of pygophor.
5. *D. nigrifacies,* aedeagus.
5a. *D. nigrifacies,* right genital style of aedeagus.

Hab. Fort de France, Martinique (Mardinina), B. W. I., June, 1911. Described from one male in the American Mus. Nat. Hist., New York.

D. nigrifacies sp. nov. figs. 5, 5a.

♂ Brachypterous. Lateral pronotal carinae divergingly curved posteriorly, not reaching hind margin; vertex square, carinae not distinct; length of face less than twice the width (1.70 to 1) sides arcuate, carinae very fine, median carina simple, vertex and face in profile rounded; antennae reaching slightly beyond base of clypeus, second joint twice the length of first; hind tibia slightly longer than tarsi, first tarsal joint equal to the other two together, spur longer than first tarsal joint, broad, laminate, tectiform, with many minute teeth on hind margin.

Face, genae, vertex pro- and mesonotum shiny black, middle of vertex, posterior and lateral margins of pronotum and lateral and posterior angles of mesonotum yellowish, first segment of antennae dark, second lighter, clypeus, thorax (except parts of pro- and mesonotum), base of abdomen and legs capucine yellow or orange buff, abdomen brown, anal segment yellowish, tegmina reaching to middle of abdomen, hyaline, light orange buff, marginal border slightly fuscous.

Pygophor nearly as broad as long, edges entire, a wide emargination on dorsal edge, anal segment sunk within pygophor, with a pair of broad, short spines near basal corners which are not visible without dissection or without having the anal segment turned up dorsally; styles broad, apex truncate and very slightly convex, the inner edge near apex thickened and elevated, the inner edge on basal half squarely produced and meets the fellow style on the median line; aedeagus cylindrical,

largest at base, curved dorsad, many small spines pointing basad, starting from an apico-dorsal position and crossing over the sides to a ventro-basal point.

Length 1.5 mm.; tegmen .7 mm.

Hab. Fort de France, Martinique, B. W. I., June 27, 1911. Described from two male specimens, the type in the American Mus. of Nat. Hist., New York.

The Australian Sheep Fly in Hawaii.

BY J. F. ILLINGWORTH, QUEENSLAND, AUSTRALIA.

[Presented by O. H. Swezey.]

I was surprised to learn that the screw-worm fly that I bred in such abundance from dead cat and rat, before leaving Hawaii, is the common sheep-fly of Australia. Froggatt* calls it *Calliphora rufifacies*, but it should be placed in the genus *Chrysomyia*.

I collected this species in Fiji in 1913; and found it very abundant in Brisbane, during June of this year. At the present time (August, 1917) I am breeding these flies abundantly from dead animals at Gordonvale. This species was bred by Terry in Hawaii, in 1905, and four of his specimens are in the collection of the Experiment Station, H. S. P. A., but bear no name.

The species is of tremendous importance in Australia, where it has taken to living sheep, after breeding for many years in the dead carcasses—just as our *Chrysomyia dux* did in Hawaii.

The development of the species is very rapid as my Hawaiian notes would indicate. An animal exposed on the 16th of July; larvae hatching on the morning of the 17th and fully developed on the 20th ready to enter soil; pupal stage about 6 days.

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*N. S. W. Dept. Agric. Farmer's Bul. 95, illustrated, page 31. Agr. Gaz. N. S. W., XXV, p. 756, 1914.